

REMARKS

Claim Rejections

Claim 1-2, 5, 8-9, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen (6,610,598) in view of Yatsuda *et al.* (2004/0251469). Claims 3 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen and Yatsuda *et al.* in view of Stokes *et al.* (2004/0124429). Claim 4, 6, 11, and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen and Yatsuda *et al.* in view of Chen *et al.* (2004/0203189). Claims 7 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen and Yatsuda *et al.* in view of Lea (5,543,830).

New and Amended Claims

By this Amendment, Applicant has canceled claims 2-4, 6-7, 9-11, and 13-14, amended claims 1, 5, 8, and 12. Claims 18 and 19 have also been added. It is believed that the amended claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

Claims 1 and 8 recite, *inter alia*, a "planar package structure" having a "planar optical modulation unit." New claims 18 and 19 recite, *inter alia*, a planar package structure for high power light emitting diode "wherein substantially all of a surface of the substrate underlying the planar optical modulation unit is substantially parallel to a surface of the planar optical modulation unit."

The primary reference to Chen teaches surface-mounted devices of light-emitting diodes with small lens including a substrate (1), an LED chip (3), an electric conducting electrode (2) located between the substrate and the LED chip, a package material (5), and a small lens (6A). Chen also teaches that the structure is a surface composed of several small lens...because the **convex surface** of the small lens enlarges the critical angle..." (Col. 3, ll. 23-25)(*Emphasis added*). Chen further teaches that "the small and concentrated arrangement makes its **appearance** a plane under the naked eyes." (Col. 3, ll.

28-29)(*Emphasis added*). The convexity (or non-planar) nature of the lens is taught as a specific advantage and is maintained in the structure taught by Chen to allow the increased light emission (*i.e.*, brightness) of a convex lens. This convexity is only reduced--but not eliminated--to be made more compatible with a vacuum extractor during assembly of light emitting diode. See, Col. 1, ll. 38-47 and Col. 3, ll. 19-33.

Chen does not teach or suggest a **planar** optical modulation unit or a **planar** package structure. As admitted by the Examiner on p. 2 of the most recent Office Action, Chen also neither teaches nor suggests a light emitting diode chip in direct contact with the substrate; nor does Chen teach or suggest a plurality of light emitting diode chips in direct contact with the substrate. Chen also does not teach or suggest that substantially all of the substrate surface underlying the lens is substantially parallel to the lens.

Yatsuda teaches a LED lamp with a lead frame (3b) powering a LED chip (2) mounted in a circular indention on a conductive metal base (3a). The indented portion of the metal base is taught as having sloped sidewalls (See, Fig. 1-2) which are at an angle to the LED light emission portion (8) and the glass member (6). Yatsuda also teaches a curved projection lens 10.

Yatsuda *et al.* do not teach or suggest a planar optical modulation unit or a planar package structure. Yatsuda *et al.* also do not teach or suggest a single or plurality of light emitting diode chip(s) in direct contact with the substrate. Further, Yatsuda *et al.* do not teach or suggest that substantially all of the substrate surface underlying the lens is substantially parallel to the lens.

Chen *et al.* teaches an LED power package and is cited for teaching a Fresnel lens.

Chen *et al.* do not teach or suggest a planar optical modulation unit or a planar package structure. Chen *et al.* also do not teach or suggest a single or plurality light emitting diode chip(s) in direct contact with the substrate. Furthermore, Chen *et al.* do not teach or suggest a single or plurality of light emitting diode chips in direct contact with a substrate and that substantially all of the substrate surface underlying the lens is substantially parallel to the lens.

The secondary reference to Lea teaches an apparatus with light emitting

element and is cited for teaching a lens structure with a gradient-refractive index.

Lea does not teach or suggest a planar optical modulation unit or a planar package structure. Lea also does not teach or suggest a single or plurality of light emitting diode chip(s) in direct contact with the substrate. Furthermore, Lea does not teach or suggest that substantially all of the substrate surface underlying the lens is substantially parallel to the lens.

The secondary reference to Stokes *et al.* teaches a solid state illumination system and is cited for teaching an encapsulating layer (156) having light or UV radiation scattering particles.

Stokes *et al.* do not teach or suggest a planar optical modulation unit or a planar package structure. Stokes *et al.* also do not teach or suggest a single or plurality of light emitting diode chip(s) in direct contact with the substrate. Furthermore, Stokes *et al.* do not teach or suggest that substantially all of the substrate surface underlying the lens is substantially parallel to the lens.

Even if the teachings of Chen, Yatsuda *et al.*, Chen *et al.*, Lea, and Stokes *et al.* were combined, as suggested by the Examiner, the resultant combination does not suggest: a planar package structure having a single or plurality of light emitting diode chip(s) in direct contact with a substrate and a planar optical modulation unit. The resultant combination would also not teach or suggest a single or plurality of light emitting diode chip(s) in direct contact with a substrate and that substantially all of the substrate surface underlying the lens is substantially parallel to the lens.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed

claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Chen, Yatsuda *et al.*, Chen *et al.*, Lea, or Stokes *et al.* that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Chen, Yatsuda *et al.*, Chen *et al.*, Lea, nor Stokes *et al.* disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's amended claims.

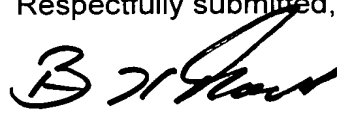
Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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